

**I. Seafloor Morphology of the Osbourn Trough and
Kermadec Trench**

and

II. Multiscale Dynamics of Subduction Zones

Thesis by
Magali I. Billen

In Partial Fulfillment of the Requirements
for the Degree of
Doctor of Philosophy



California Institute of Technology
Pasadena, California

2001
(Submitted October 11, 2001)